CLAIMS

1. A method of casting elongated prestressed concrete products, comprising:

positioning a clamshell-type mold form, including two hinged mold halves, onto a first prestressing element pretensioning fixture;

closing the mold halves together over a set of prestressing elements pretensioned in the pretensioning fixture, to form a mold cavity with said prestressing elements extending therealong;

dispensing concrete slurry into the mold cavity;

permitting said concrete slurry to cure, to thereby form a concrete casting;

opening the mold halves and removing the mold form from the casting and the pretensioning fixture, after the casting has at partially cured, said casting remaining on said pretensioning fixture, and said pretensioning fixture remaining stationary, during said removing of the mold form;

permitting said casting to continue to cure on said pretensioning fixture after removal of the mold form, at least to such point that engagement of the concrete with the pretensioned prestressing elements will prevent movement of the prestressing elements within the concrete; and

thereafter releasing said prestressing elements from said pretensioning fixture.

2. A method according to claim 1, wherein after said removing of the mold form, the mold form is repositioned on a second pretensioning fixture where a further casting operation can be carried out while said casting continues to cure on the first pretensioning fixture.

3. A method according to claim 1, wherein said closing of the mold halves forms a mold cavity having an octagonally shaped cross-section.

4. A production system for carrying out a method according to claim 2, said system including multiple pretensioning fixtures, a clamshell-type mold form, and an overhead conveyor for transporting the mold form as a unit from one of said pretensioning fixtures to another.

5. A wire pretensioning fixture for use in casting elongated prestressed concrete structures, said fixture comprising a pair of elongated I-beams joined together in side-by-side relation to form a mold form-supporting base, and a pair of upstanding headers, one secured at each end of the base, at least one of said headers including an anchor plate to which ends of tensioned prestressing elements may be secured, said anchor plate being secured between a pair of generally L-shaped side plates having base portions thereof fitted and secured within spaces defined between respective pairs of upper and lower I-beam flanges.

6. An apparatus for casting elongated prestressed concrete products, comprising:

a pretensioning fixture including a pair of spaced headers between which prestressing elements may be pretensioned; and

a clamshell-type mold form including two hinged mold halves, said mold form being removably positionable on said pretensioning fixture to thereby form a mold cavity along which prestressing elements pretensioned between said headers may extend.

7. An apparatus for casting according to claim 6, further comprising an elongated pallet mounted to and extending along said pretensioning fixture between said headers, said mold halves being closeable onto sides of said pallet.

8. An apparatus according to claim 6, wherein said pretensioning fixture comprises a pair of elongated I-beams joined together in side-by-side relation to form a mold form-supporting base.

9. An apparatus according to claim 8, wherein at least one of said pair of upstanding headers includes an anchor plate to which ends of tensioned prestressing elements may be secured, said anchor plate being secured between a pair of generally L-shaped side plates having base portions thereof fitted and secured within spaces defined between respective pairs of upper and lower I-beam flanges.

10. An apparatus according to claim 8, further comprising at least one clamp pivotably mounted to a web of one of said pair of I-beams, said clamp being swingable upwardly into engagement with a respective one of said mold halves.

11. An apparatus according to claim 8, further comprising a plurality of pins protruding from a side of said pallet, said pins being engageable within corresponding apertures provided in an engaging side portion of a respective one of said mold halves.

12. An apparatus according to claim 6, further including an overhead conveyor arranged to permit vertical placement of the mold form on, and removal of the mold form from, said pretensioning fixture.

13. An apparatus according to claim 6, wherein said mold cavity has an octagonally shaped cross-section.